



*IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

Applicant: Jan LONCKE et al.  
Title: LAYERED FILTERING  
STRUCTURE  
Appl. No.: 09/869,802  
Filing Date: 09/24/2001  
Examiner: M. Savage  
Art Unit: 1723

**DECLARATION OF VANDAMME JOHAN**

I, Vandamme Johan, a citizen of Belgium, residing at Breeschoot 16, BE-9800 Deinze, Belgium, declare and state that:

1. I graduated in July 1977 from the University of Ghent with a degree of University Graduated Engineer.
2. Since February 1, 1986 on until now, I have been working for N.V. Bekaert S.A. in various positions. I started as an engineer responsible for the production unit of the metal fibers. Thereafter I became the product and marketing manager in charge of all filtration products based on metal fibers. Since July 1, 2000 I am general manager for the Bekaert Fiber Technologies division, an unincorporated division of N.V. Bekaert S.A.
3. I am a named inventor of the U.S. patent application identified in the caption of this declaration. The U.S. patent application identified in the caption is assigned to N.V. Bekaert S.A., my employer. I am a named inventor on two granted U.S. patents: US patent 5,665,479 and US patent 6,733,575. These patents relate to filters and fiber products. The first of my U.S. patents was filed more than 8 years ago. In other countries in the world, I am a named inventor on patents covering four distinct inventions. All of these patents relate to filters and fiber products.

4. I am familiar with the literature on filters and apparatuses and methods for making filters, and with the literature on webs, including non-woven webs, and apparatuses and methods for making webs. I understand how a person of ordinary skill in the field of filters and webs would understand the terms and concepts disclosed in the literature, including the patent literature.

5. I have read the Examiner's office actions in this case, and I have read the patent literature cited by the examiner, especially European Patent Application Number 93906362.4 (Publication Number 0 561 001 A1) to Ishibe (hereinafter "Ishibe").

6. At page 6, lines 34-35, Ishibe teaches the use of "metal short fiber" having an aspect ratio of between 2 to 15 to make particle layer 3, where the aspect ratio is a value obtained by dividing the length of short fibers by its diameter. At page 6, lines 14-15, Ishibe teaches that the metal short fibers have a fiber diameter of 0.5 to 15  $\mu\text{m}$ . When these diameters are applied to the above mentioned aspect ratios, the artisan of ordinary skill would understand that Ishibe teaches the use of a fiber having a maximum length of .225 mm to make particle layer 3.

7. I have read the proposed amendment to claim 1, presented in Exhibit I, and firmly believe that the term "non-woven web of metal fibers" could only be construed by a person of ordinary skill in the art as meaning a material made from fibers having a length substantially greater than 0.225 mm, the maximum length specified in Ishibe.

8. Ishibe does not teach the use of fibers longer than 0.225 mm to make particle layer 3. In fact, Ishibe discourages the skilled artisan from using fibers longer than 0.225 mm. For example, at page 6, lines 35-40, Ishibe teaches that metal short fibers having an aspect ratio over 15 results in an inadequate particle layer 3, and that aspect ratios should preferably lie in the range of 4 and 8. Further, at page 6, lines 18-19, Ishibe teaches that metal short fibers having a diameter of 15  $\mu\text{m}$  or greater results in an inadequate particle layer 3, and that the diameters should preferably lie in the range of 0.5 to 4  $\mu\text{m}$ . Thus, Ishibe teaches as a preferred embodiment the use of fiber lengths less than or equal to 0.032 mm ( $8 \times 4 \mu\text{m}$ ), thus discouraging one of ordinary skill in the art from using longer lengths, and indicates that fiber lengths greater than 0.225 mm result in an inadequate particle layer 3. Therefore, the skilled

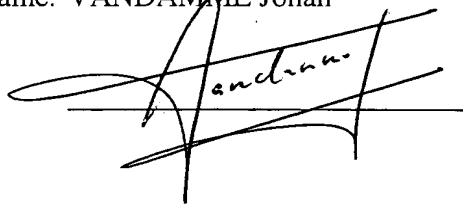
artisan would not attempt to make the particle layer 3 of Ishibe with metal short fibers having a length greater than 0.225 mm.

9. One of ordinary skill in the art would not consider layer 3 of Ishibe to comprise a *web* of metal fibers. To the contrary, one of ordinary skill would consider layer 3 to be a *particle* layer, just as Ishibe himself describes layer 3, since it is formed from metal powder, particles or, as discussed above, very short fibers. One of ordinary skill in the art would recognize that powders, particles and short metal fibers will not sufficiently overlap to form a web structure.

10. I declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: July 9, 2004

Name: VANDAMME Johan

A handwritten signature in black ink, appearing to read "Vandamme", is written over a horizontal line. The signature is stylized with a large, sweeping initial 'V' and a trailing flourish.

## EXHIBIT I

1. (Proposed Amendment) A layered filtering structure having a filter inlet side and a filter outlet side, said layered filtering structure comprising at least a first layer on a second layer, each layer comprising a non-woven web of metal fibers which has been sintered, said two layers being in contact with each other, wherein said first layer, most close to the filter inlet side has a porosity below 55 %, and wherein said second layer, closer to the filter outlet side has a porosity of at least 80% and which is at least 20 % greater than the porosity of said first layer.